Proposal for a Korean Script Root Zone LGR

LGR Version 1.0

Date: 2018-01-25

Document version: 1.03

Authors: Korean Script Generation Panel

1 General Information/ Overview/ Abstract

The purpose of this document is to give an overview of the proposed Korean Script LGR in the XML format and the rationale behind the design decisions taken. It includes a discussion of relevant features of the script, the communities or languages using it, the process and methodology used and information on the contributors. The formal specification of the LGR can be found in the accompanying XML document below:

• proposal-korean-lgr-25jan18-en.xml

Labels for testing can be found in the accompanying text document below:

• korean-test-labels-25jan18-en.txt

In Section 3, we will see the background on Korean script (Hangul + Hanja) and principal language using it, i.e., Korean language. The overall development process and methodology will be reviewed in Section 4.

The repertoire and variant groups in K-LGR will be discussed in Sections 5 and 6, respectively. In Section 7, Whole Label Evaluation Rules (WLE) will be described and then contributors for K-LGR are shown in Section 8.

Several appendices are included with separate files.

2 Script for which the LGR is proposed

ISO 15924 Code: Kore

ISO 15924 Key Number: 287 (= 286 + 500)

ISO 15924 English Name: Korean (alias for Hangul + Han)

Native name of the script: 한글 + 한자

Maximal Starting Repertoire (MSR) version: MSR-2 [241]

Note. 'Korean script' usually means 'Hangeul' or 'Hangul'. However, in the context of the Korean LGR,

Korean script is a union of Hangul and Hanja.

3 Background on Script and Principal Languages Using It

This section introduces the background on Hangul and Hanja (Han script). The main focus of this section is to review Hangul and Hanja from different aspects and to conclude that both Hangul and Hanja must be included in K-LGR repertoire.

Section 3 is organized as follows. Section 3.1 covers Korean script, Hangul and Han script (Hanja). Significant User Communities for the Korean Script is described in Section 3.2. Korean Language and Korean Script, Hangul, are explained in Section 3.3. Finally, in Section 3.4, summary is given.

More information about Hangul is described in Appendix G and more detailed information about Hanja usage in Republic of Korea is described in Appendix H.

3.1 Korean script: Hangul and Han script (Hanja)

Korean language has a long history, more than 2000 years. Until the invention of Hangul script in 1443, Han script (Hanja, Chinese character) was used in writing Korean language.

In old times when there was no Hangul, Hanja was used either to denote the meaning or to represent the sound of Korean words in such writing systems as Idu, Hyangchal, or Gugyeol which are not used today. Japanese still uses a similar system as of today. In Japanese writing, usually one and the same Kanji character can be read based either on the meaning or on the sound. As a result, one Kanji character can have several or even more than ten different readings.

With the creation of Hunminjeongeum (meaning The Proper Sounds for the Instruction of the People) or Hangul in 1443, Korea started to have its own writing system which enables Koreans finally to write Korean language properly. However, the ruling class insisted on using Hanja instead of Huminjeongeum and dismissed Hangul as "Eonmun" or a vernacular script. So the usage of Hangul was largely limited to explanatory notes in the Buddhist scriptures, songs, and some letters. It has been less than 100 years since Hangul became the main writing system in Korean society.

Korean language is mainly used in Republic of Korea (South Korea) and Democratic People's Republic of Korea (North Korea). Korean language, on the other hand, is also recognized and used by those who have Korean origin living abroad under their Korean ancestors' influence or those who learn Korean as their second language in many parts of the world including China, USA, Japan, Europe, Brazil, Russia, Vietnam, and so on.

3.2 Significant User Communities for the Korean Script

There are three groups of people who use Korean around the world. According to Professor Kwon, "the first group of people speaks Korean as their first language and the official language, and this group includes South and North Koreans.

The second group speaks Korean as a second language and includes Koreans who live in other countries than Korea, such as China, Japan, the U.S.A., and Central Asia, as well as Koreans who speak the language of the host country as their first language while speaking Korean in their homes and the ethnic community. Korean immigrants and their descendants living in other countries belong to this group.

Meanwhile, the "Joseon language" is a variant of Korean that is spoken by the so-called "Joseonjok" or Joseon people living in the Yanbian Korean Autonomous Prefecture in Jinlin Province and other parts of the three Northeastern Provinces of China, while the variant of Korean used by the descendants of Goryeo people living in Central Asia including Kazakhstan, Uzbekistan, and Kyrgyzstan is called, "Goryeo-mal" or the Goryeo language.

Foreigners who learn and speak Korean as a foreign language, but not as a first or second language, make up the third group [232].

A considerably large number of people speak Korean. According to Professor Kwon, "In the latest edition of *Ethnologue* (https://www.ethnologue.com/country/KR), which provides a wide variety of information on languages around the world, 77.2 million people spoke Korean as of 2010, making the language the 13th largest linguistic group in terms of the number of speakers of the language.

According to data released recently by an Internet-related international organization, Korean is the world's 10th most frequently used language on the Internet.

In addition, Korean was adopted as a language of international publication at the 43rd General Assembly of the WIPO held in September 2007, allowing applications for international patents to be submitted in Korean and international patents to be viewed in Korea" [232]

3.3 Korean Language and Korean Script, Hangul

Until the first half of the Joseon Dynasty (equivalent to the later period of Middle Korean), Chinese characters were used to write Korean as no Korean writing system existed at that time. Koreans developed "idu" and "gugyeol" as writing systems, in which Chinese characters were used to represent the sounds of Korean words. After the creation of Hunminjeongeum (or Hangul), both Hangul and Hanja were used together, while only Hangul is used in modern Korean.

Today, Korean is written in Hangul. Hanja are sometimes provided in parentheses next to Korean words, but only when the word in Hangul alone may be misunderstood due to its multiple meanings or when further clarification of a specific meaning is necessary. In rare cases, words are written in Hanja and the particles and suffixes associated with the words are left in Hangul.

Under "The Writing System of the Korean Language" the Naver Knowledge Encyclopedia [231] explains that "Hanja consists of ideographs while Hangul is a phonemic orthography, so they are two very distinct scripts that are used together in the Korean language. Hanja was imported from China as a product of growing interaction with China. It is presumed that Hanja became the dominant writing system in Korea from the 4th to the 6th century, during which each of the three kingdoms that were competing for hegemony on the Korean Peninsula established a centralized system of government in their respective territories, and many historical books were published during this period.

Consequently, Chinese characters dominated written texts in the three old kingdoms, and this state of affairs continued until the end of the 19th century. So the Korean people spoke Korean but wrote their speech in Chinese characters, the script of another country, creating a discrepancy between speech and script, which caused interferences between the two languages over time. As a result, elements of the Chinese language were incorporated into Korean, and many Chinese words made their way into the Korean vocabulary, replacing the original Korean words."

Huminjeongeum was invented in 1443 during the early days of Joseon Dynasty and promulgated in 1446. Finally, Koreans had their own writing system to record the sounds of their speech. The section of Naver Knowledge Encyclopedia titled "The Korean Language" describes Hangul "as an independent and complete system of writing that is unique and highly scientific."

Most countries adapted existing writing systems and adopted them as their own, but Hangul is an original script that is isolated in the sense that it has not been derived from any other previous script. The graphemes and phonemes of Hangul are directly and systematically related [233].

3.4 Summary: both Hangul and Hanja are needed in K-LGR repertoire

In Republic of Korea, Hangul is mainly used for writing Korean. Therefore, Hangul syllables must be included in K-LGR repertoire. There are 11172 modern Hangul syllables and they are included in K-LGR repertoire. Hangul is already allowed at the second level domain under .kr and .하국.

Although Hangul is used much more than Hanja in daily life, Hanja is still used. The Hanja usage in Republic of Korea is described in detail in Appendix H. Therefore, both Hangul and Hanja must be included in K-LGR repertoire. 4758 Hanja characters which is a union of KS X 1001 and IICORE characters with source K are included in K-LGR.

Having a separate Hanja repertoire in K-LGR (different from that in C-LGR or J-LGR) implies at least three things:

- 1) The repertoire of K-LGR is different from that of C-LGR or that of J-LGR. This is also related with 3) below.
- 2) The variant groups (sets) in K-LGR are different from those in C-LGR. This is also related with 3) below.
- 3) Hanja in K-LGR can be combined with Hangul syllables at the root level domains; however, Hanzi only in C-LGR or J-LGR but not in K-LGR cannot be combined with Hangul syllables at the root level domains.

As shown in Appendix H from different angles, Hanja is still critical and still used quite a lot in Republic of Korea. Therefore, it is necessary that Hanja shall be included in K-LGR. A brief summary of issues discussed in Appendix H is given below:

- Many Korean words have their own corresponding Hanja ones; Hangul-Hanja mixed writing has been popular since the end of 19th century.
- Framework Act on Korean Language does regulate government documents only.

- Place names, personal names, and family clans have their own corresponding Hanja characters and they are good candidates for Hanja domain names.
- There are many Hanja or Hangul-Hanja-mixed registered Trademarks and store signboards.
- In Jan. 2017, the Name and Number Committee of Korea Internet Governance Alliance (KIGA, http://en.kiga.or.kr) formally created a WG to discuss the adoption policy of Hanja within the framework of Korean ccTLD (.kr and .한국).

KGP maintains that K-LGR must include both Hangul and Hanja in its repertoire based on the discussions in Section 3 and Appendix H.

4 K-LGR: Overall Development Process and Methodology

The overall development process and methodology of K-LGR are explained in this Section.

The creation of KGP (Korean script Generation Panel) and the public hearings in Korea for K-LGR are briefed in 4.1 and 4.2, respectively. 4.3 explains how Hangul repertoire and Hanja repertoire are created. The efforts to unify Hanja variant groups between Korea (KGP) and China (CGP) are described in 4.4

The challenge of incorporating the DPRK's voice in K-LGR is described in 4.5. The main activities of Korean script General Panel (KGP) are covered in 4.6. Lastly, CJK Coordination meetings are described in 4.7.

4.1 KGP (Korean script Generation Panel)

The Korean script Generation Panel (KGP) was initially formed in December, 2013 and reorganized in January, 2015. The panel includes two persons in charge of managing the state domain registration system and registration agencies, two Hanja experts, one Korean language expert, three community members and three industry representatives.

4.2 Public Hearings on K-LGR

A draft K-LGR repertoire and variant groups were presented for feedback at the Workshop #1 of the 5th Korea Internet Governance Forum in September, 2016: http://igf.or.kr/1163. The KrIGF home page is http://igf.or.kr. The title of the workshop was Domestic Public Review of Generation of Hanja Top-level Hanja domain.

In September, 2017, there was a similar workshop. The title of Workshop #9 of Korea Internet Governance Forum 2017 was Opening Policy of Internet Address Resources.

4.3 Hangul repertoire and Hanja repertoire

For Hangul repertoire, no special coordination was necessary since the set of 11172 Modern Hangul syllables is commonly accepted by Korean-speaking people.

For Hanja (Han script) repertoire, no special coordination was needed. K-LGR v1.0 includes 4758 Hanja characters which is a union of KS X 1001 and IICORE characters with source K.

4.4 Unification Efforts of Hanja variant groups between Korea (KGP) and China (CGP)

For Hanja (Han script) variant groups, Korean script Generation Panel (KGP), CGP (Chinese script Generation Panel), and JGP (Japanese script Generation Panel) conducted CJK coordination meeting. These 3 GPs met several times at ICANN meetings and CJK meetings. CGP includes experts from China, Taiwan, Hong Kong, etc.

Since JGP did not include variant groups composed of Kanji characters, only KGP and CGP tried to coordinate variant groups and succeeded in unifying variant groups. In other words, if we keep only characters belonging to K-LGR repertoire in C-LGR variant groups, variant groups of K-LGR and C-LGR are exactly the same. After variant groups of K-LGR and C-LGR are unified, K-LGR v.10 includes 152 variant groups.

4.5 Challenge of Consultation with DPRK

Although it is desirable for K-LGR to incorporate the voices of DPRK, one of key stakeholders of Korean communities, it is almost impossible to communicate with the experts in DPRK regarding K-LGR issues as of today. As a result, the repertoire of K-LGR includes Hanja characters reflected the needs of Republic of Korea (South Korea) only.

4.6 Main Activities of Korean script General Panel (KGP)

Dec. 2013, Korean script General Panel set up.

Jun. 2014, KGP meeting #1

Jan. 2015, KGP meeting #3 (Korean Script General Panel reorganized), monthly meeting

May 2015, KGP meetings #6, #7; K-LGR v0.1 published;

Jun. 2015, KGP meeting #8; K-LGR v0.2 published

Aug. 2015, KGP meeting #10; K-LGR v0.3 published

Feb. 2016, The Korean Community "formally" Forms Korean Script Generation Panel for Developing the Root Zone Label Generation Rules (LGR), 2016-02-01;

Mar. 2016, K-LGR v0.4 published

Sep. 2016, K-LGR v0.5 published

Nov. 2016, K-LGR v0.6 published

Mar. 2017, K-LGR v0.7 (repertoire and variant groups) published

Dec. 2017, K-LGR v1.0 (repertoire and variant groups) published

4.7 CJK Coordination Meetings

CJK met at most ICANN meetings from meeting #50 in June 2014 in London to meeting #58 in March 2017 in Copenhagen.

CJK also had several CJK Coordination meetings in Seoul, in Beijing, and in Taipei.

5 Repertoire

Hangul repertoire is presented in 5.1 and Hanja repertoire is presented in 5.2.

5.1 Hangul repertoire

11172 Hangul syllables of Unicode code points are from U+AC00 to U+D7A3 [2, 4].

In modern Hangul, there are 19 syllable-initial (leading consonant) letters, 21 syllable-peak (vowel) letters, and 27 syllable-final (trailing consonant) letters, including complex letters. A Hangul syllable block is composed of a syllable-initial letter, a syllable-peak letter, and optionally a syllable-final letter. The number of syllable blocks without a syllable-final letter is 19 * 21 = 399 and the number of syllable blocks with a syllable-final letter is 19 * 21 * 27 = 10773. If we add 399 and 10773, the total number of syllable blocks becomes 11172. We can get the same number this way: 19 * 21 * (27 + 1) = 11172 where 1 is added for syllable blocks without a syllable-final letter.

Though some might argue that not all 11,172 syllables are actually used in our daily lives, there is no proper process for extracting a meaningful stable subset. The full repertoire should be accepted as the general industry practice for the Hangul syllables.

5.2 Hanja repertoire

The set of 4758 Hanja characters is a union of the KS X 1001 (= K0) and IICORE characters with source K (see Table 1).

- 1) KS X 1001 (previously KS C 5601) = KO: This used to be very widely used. The Hanja set was first included in KS X 1001 in 1987. The repertoire can be identified in [101].
- 2) The set of 4743 Hanja characters which are IICORE characters with source K. The repertoire can be identified in [102].

Table 1. The source and number of characters for Hanja in K-LGR v1.0

Source of Hanja Character Set	# chars
1) KS X 1001 (268 compatibility chars excluded)	4620
2) IICORE characters with source K.	4743
K-LGR v1.0 (2017.12.10.): Hanja repertoire (Union of 1) and 2))	4758

6 Variants

In 6.1, variant issues with Hangul are reviewed. In 6.2, variant issues between Hangul syllables and Hanja characters are reviewed.

Unification of variant groups of K-LGR and C-LGR between KGP and CGP is reviewed in 6.3. Lastly, in 6.4, we explore how each of variant character in a variant group can be allocated or blocked in a label.

6.1 Variant issues with Hangul

There are no variant issues with (or between) 11172 Hangul syllables.

6.2 Variant issues between Hangul syllables and Hanja characters

Most Hanja characters are too complicated to be confused with Hangul syllable blocks. There are, if any, just a few Hanja characters that could be possibly confused with Hangul syllable blocks for those who do not know Hangul and/or Hanja well.

KGP investigated this issue systematically. In summary, it is found that the following 17 Hanja characters could be possibly confused with a Hangul "letter" (not a syllable block).

1-1) 8 Hanja characters that could be possibly confused with a Hangul consonantal letter:

```
U+4E5A L (U+1102 L); U+4EBA 人 (U+1109人); U+5165 入 (U+1109 人); U+531A \square (U+1103 \square); U+5338 \square (U+1103 \square); U+53E3 \square (U+1106 \square); U+56D7 \square (U+1106 \square); U+5DF1 \square (U+1105 \supseteq)
```

1-2) 9 Hanja characters that could be possibly confused with a Hangul vowel letter:

```
U+4E00 - (U+1173 -); U+4E04 \bot (U+1169 \bot); U+4E05 \top (U+116E \top); U+4E0C \top (U+1172 \top); U+4E28 | (U+1175 |); U+4E29* | (U+116C \bot); U+4E85 | (U+1175 |); U+4EA0 \rightharpoonup (U+1169 \bot); U+535C | (U+1161 |)
```

However, since only syllable blocks are included in K-LGR, KGP checked whether all combinations of 8 * 9 = 72 could be possibly confused with Hangul syllable blocks and found that the following 6 Hanja

^{*} Not included in MSR-2. All the other 16 characters are included in MSR-2.

characters could be possibly confused with Hangul syllable blocks:

2-1) 2 Hanja characters that are in MSR-2 and also in K-LGR:

2-2) 3 Hanja characters that are in MSR-2, but not in K-LGR:

```
U+C4F0 쓰 - U+4E1B 丛 (source: only G)
U+B9C8 마 - U+535F 卟 (sources: G, H, T)
U+B258 뉘 - U+723F 爿 (sources: G, H, T, J, K2)
```

2-3) 1 Hanja character that is not in MSR-2 and not in K-LGR:

```
U+C2A4 스 - U+4EBC 스 (sources: G, H, T, J)
```

KGP obtained the above result

- a) by eye-checking each Hanja character in MSR-2, and also
- b) by systematically checking Hanja characters which contain both one of 8 characters in 1-1) and one of 9 characters in 1-2).

KGP added the following two variant groups each of which contains one Hangul syllable and one Hanja character in 2-1) to K-LGR:

KGP added the following three variant groups each of which contains one Hangul syllable and one Hanja character in 2-2) to K-LGR:

```
(U+C4F0 Hangul syllable 丛, Hanja U+4E1B 丛)
(U+B9C8 Hangul syllable 中, Hanja U+535F 卟)
(U+B258 Hangul syllable 뒤, Hanja U+723F 爿)
```

It needs to be noted that three Hanja characters are out of K-LGR repertoire and are out-of-repertoire-var.

6.3 Unification of Variant Groups of K-LGR and C-LGR between KGP and CGP

Especially, 304 Chinese variant groups containing two or more K Hanja characters (characters belonging to Korean script LGR repertoire) needed to be coordinated between Korea and China. It was noted that variant groups of C-LGR was a superset of those of K-LGR. KGP and CGP tried to modify variant groups in K-LGR and C-LGR so that there will not be any conflict in the final variant groups.

K-LGR repertoire was first decided and then variant groups (sets) in K-LGR were defined by KGP without checking the repertoire or variant groups (sets) in C-LGR.

After coordination process between KGP and CGP,

K-LGR (v1.0) now has 152 variant groups (sets) containing two or more K Hanja characters; and C-LGR (2017.03.31.) now has 3475 variant groups containing two or more Hanzi characters.

Among 152 K (Korean) variant groups in K-LGR v.10, each of 147 variant groups has two K (Korean) characters and each of the 5 remaining variant groups has three K characters. No K variant group has four or more K characters.

6.4 Variant Policy in a label: allocatable vs. blocked

When a certain Hanja character in an applied-for label belongs to a K variant group, only that Hanja character is allocated and all the other Hanja character(s) in the variant group are blocked in a label.

7 Whole Label Evaluation Rules (WLE)

Except the restriction imposed by variant groups described in Section 6 above, Hangul syllables and/or Hanja characters can be included in a label without any restriction. In other words, a label may consist of Hangul syllables only, Hanja characters only, or Hangul syllables and Hanja characters.

8 Contributors

Contributors include two technical experts, one Korean linguist, two Hanja experts, two policy makers, three persons from community, six persons from registry (registration institute), and three persons from registration agency.

Field	Name	Organization
Technical experts	Kyongsok KIM (Chair)	Pusan National University
Technical experts	Dongman LEE	Korea Advanced Institute of Science and Technology (KAIST)
Linguist (Hangul)	Jeongdo CHOI	The National Institute of the Korean Language
Linguists (Hanja)	Sanghyun SHIN	Korea University
Linguists (Hanja)	Sungduk CHO	Sungkyunkwan University
Policy Makers	Youngeum LEE	Korea National Open University (KNOU)
Policy Makers	Youn Jung PARK	The State University of New York, Korea
Community	Eungjun JEON	You Me Patent & Law Firm
Community	Boknam YUN	Hankyul Law Group
Community	Byeongil OH	Jinbonet
Registry (Registration Institute)	Jinhyun CHO	Korea Internet & Security Agency (KISA)
Registry (Registration Institute)	Minjung PARK	Korea Internet & Security Agency (KISA)
Registry (Registration Institute)	Yunmi CHOI	Korea Internet & Security Agency (KISA)
Registry (Registration Institute)	Ryoung CHAE	Korea Internet & Security Agency (KISA)

Registry (Registration Institute)	Minjee KIM	Korea Internet & Security Agency (KISA)
Registry		Korea Internet & Security Agency
(Registration Institute)	Sinyeong PARK	(KISA)
Registration Agency	Seong-jin PARK	Dotname Korea
Registration Agency	ChangKi JANG	Gabia Inc.
Registration Agency	Myungsoo LEE	MEGAZONE

9 References

- [0] Unicode 1.1
- [1] Unicode 2.0
- [3] Unicode 3.0

[14] The Unicode Consortium. The Unicode Standard, Version 6.3.0, (Mountain View, CA: The Unicode Consortium, 2013. ISBN 978-1-936213-08-5) http://www.unicode.org/versions/Unicode6.3.0/

[101] 'kIRG KSource' values starting by KO in the Unihan database

[102] 'kIICore' VALUES including the letter 'K' (indicating source) in the Unihan database

[221] Kim Jungshin, Section 3 of High School Korean II, The Past and Present of the Korean Language and the Writing System, taken from the website of Kyohaksa, http://www.kyohak.co.kr/2014textbooks/h_kor1.html

[222] Huh Cheol, 'An Analysis of the Use of Hanja, based on "The Survey of Frequently Used Modern Korean Vocabulary 1-2" ', <Korea Education Research, Vol. 34, (June 2010), pp. 221-244, ISSN 1225-1321 KCI>.

[241] Internet Corporation for Assigned Names and Numbers, "Maximal Starting Repertoire — MSR-2 Overview and Rationale", 14 April 2015. Available from https://www.icann.org/en/system/files/files/msr-2-overview-14apr15-en.pdf

[242] Internet Corporation for Assigned Names and Numbers, "Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels." (Los Angeles, California: ICANN, March, 2013)

http://www.icann.org/en/resources/idn/variant-tlds/draft-lgr-procedure-20mar13-en.pdf

[243] Integration Panel "Requirements for LGR Proposals from Generation Panels" available online as https://www.icann.org/en/system/files/files/Requirements-for-LGR-Proposals-20150424.pdf

Appendix A. Several figures showing usage of Hanja in ROK and DPRK

Appendix B. Hangul-Hanja mixed trademarks

Appendix C. Hangul-Hanja mixed store signboards

Appendix D. A sample of Corporate Register of Samsung Mulsan containing

Hanja in corporate name

Appendix E. Law books showing Hangul-Hanja mixed style

Appendix F. Variant Groups (Sets) in K-LGR v1.0

Appendix G. More Information about Hangul

Appendix H. More Information about Hanja and Hangul-Hanja in ROK

Appendix A. Several figures showing usage of Hanja in ROK



Figure AppA1-1. Pusan National University written in Hanja (釜山大學校)



Figure AppA1-2. The First Library written in Hanja (第一圖書館)



Figure AppA1-3. On-line Hangeul dictionary (dic.naver.com) shows Hanja for Hanja-based entry words.



Figure AppA1-4. Jeju Special Self-governing Provincial Government (濟州 特別 自治道廳)



Figure AppA1-5. Maeil Sinmun shows its title in Hanja 每日新聞 (http://www.imaeil.com)



Figure AppA1-6. Chosun Ilbo shows its title in Hanja 朝鮮日報 (paper copy)



Figure AppA1-7. The front of Hyundai Group Building: 現代

서지정보

(511) 상품분류	06분류(8판) 07분류(8판) 09분류(8판) 12분류(8 판) 15분류(8판) 19분류(8판) 20분류(8판)
(220) 출원번호(일자)	5620060010612(2006.07.12)
(731) 출원인	삼성전자주식회사 삼성물산 주식회사
(111) 등록번호(일자)	4000481700000(2006.11.01)
(260) 출원공고번호(일자)	
(112) 등록공고번호(일자)	
(641) 원출원번호(일자)	4019750004079(1975.06.19)
(300) 우선권주장번호(일자)	
관련출원번호	4019750004079 5019960003299 5020060009412
등록상태	등록
최종처분(일자)	등록결정(일반)(2006.11.01)
소급구분(일자)	(2006.07.12)
심판사항	
구분	국내상표, 일반



Figure AppA2-1. Registered Trademark of Samsung Moolsan Co., Ltd.





출원인 정보

번호	이름(코드)
1	삼성전자주식회사(119981042713)
2	삼성물산 주식회사(119980017949)

Figure AppA2-2. Registered Trademark of Samsung Jeonja



출원인 정보

번호	이름(코드)
1	현대종합상사 주식회사(119980045743)
2	현대건설주식회사(119980045471)
3	현대중공업 주식회사(119980045750)

Figure AppA2-3. Registered Trademark of Hyundai

klgp220_1011d_AppendixA_figures_Hanja.hwp



번호

Figure AppA2-4. Registered Trademark of Hyundai Motors

이름(코드)

현대자동차주식회사(119980045675)



Figure AppA2-5. Registered Trademark of Hyundai Jonghabsangsa

Appendix B. Hangul-Hanja mixed trademarks

Trademarks	Image
삼성	SAMSUNG 三 星
삼성	会 SAMSUNG AMSUNG
현대중공업주식회사	現代重工業株式会社 空대중공업주의호IハI HEAVY INDUSTRIES CO. LTD. 현대 헤비 인터스트리즈
현대자동차	完日 現代自動車

금호	部 等 Sumho
두산(斗山)	4 Ц
설화수	雪花秀
홍삼活	홍삼活

홍삼충전 氣	홍삼충전 기(氣)
홍삼진 明	홍삼진 明
휴(休)	休 HUE
男다른 감子탕	353

火난치킨	火난치킨 화난치킨
株式會社 新榮와코루	株式會社 新榮와코루
株式會社 사러가	株式會社 ハト 2 () ト
株式會社 태화쇼핑	株式會社 では TAEHWA SHOPPNG

서울都市가스 株式會社	서울都市小人 林式會社
株式會社 도투락	株式会社 도 투 락
株式會社 聯合유리	한 조차 연합유리 #★會科 훼 含 유 리 YEON-HAP GLASS CO., LTD
株式會社 영본가구산업	41-85-000498

東海엔지니어링株式會社	D. 京海型MMS标式含剂
일본省에너지株式會社	40-86-003637 - ニッポン省エネルギー株式会社 일본省에너지株式合社
韓國콜마株式會社	就 韓國置叶株式會社
株式會社 레이디가구	株式會社 さいていて

株式會社 글로리	學繁章 로 김
株式會社 엠앤티	株式會社 엠 앤 티 Multimedia & Technology
株式會社 現代 알미늄	禁現代。
株式會社 韓國 뉴머신	株式會社 韓國 뉴-머신

大亞알미늄 株式會社	대아알미늄 주식회사 大亞알미늄 株式會社 DaeA Aluminum Co.,LTD.
주식회사 익주산업 (株式會社 益珠産業)	株式會社 益珠産業
주식회사 中山	주식회사 中山
주식회사 又新켐텍	株式會社 又新 웹 핵 WOO SHIN CHEMTECH CORP.

Appendix C. Hangul-Hanja mixed store signboards

(<-- klgp257_4 Hangul-Hanja mixed signboards)







 $klgp220_1013d_AppendixC_Hg_Hj_mixed_signboards.hwp$























Appendix D. A sample of Corporate Register of Samsung Mulsan containing Hanja in corporate name

- Samsung Mulsan: 三星物産 株式會社

등기번호 000	등기사항일]부증명서(말소사항]	포함)[제출용
등쪽번호 110111-	0002975		
상 호 三星物流 년	朱式會社		변경 동기
- Lancon management			변경
본 점 사용 중구	대병 522가 260		57
41.0 2073	nt 20 2 0 al - 210		1998,09.30 변경
	74.74 31.752 3534		1998.09.30 使刀
사술부병사	- 서울구 서울등 1391-20		2008.05.01 변경 2008.05.01 동기
		RHC4H V	2011.10.31 5.3
서울특별시	서호구 서호대로74월 14(서	초등)	9年五 9年五
			2013.07.01 등기
공고방법 서울시대	에서 발행하는 일반 중앙일:	보이 세계하다	世名
St. 77 (8 24 24 24 24 24 24 24 24 24 24 24 24 24	141 680 66 000	- 1 -1-10-1	1995.03.13 변경
서운시대	에서 발생하는 중함일보다 6	한국경제신문에 계재한다.	
			1995.08.27 57
1주의 금맥 공 5.0	vice of		변경
1. 3 三元 - 1 - 57	VO -8		7 7
			1992.03.25 원정
발행할 주식의 흡수	49,000,000 T		
			1995.03.13 Y 7
	110,000,000 ³⁸		1995.03.27 景2
	unt one one E		1997.02.28 변경
	320,000,000 予		1997.03.06 景才
W 60.2	F식의 흡수와	The second second	변경연월일
	및 각각의 수	자본의 총액	를 기 연 월 일
방해주시의 총수	58,904,100 ₹		1994.07.15 번 정
보통주의	15,805,750 T		57
우선주석	3,598,350 주	공-94,620,600,000 원	
말행주식의 총수	28, 354, 100 7		1995.02.17 텔정
보통주의	84,755,750 7	Common transportation tax	1995.02.17 동기
우선주식	3,598,350 7	급 -141,770,500,000 입	(ASS/03/12/12/13/17)
발행주식의 홍수	63,741,180 7		1996,01,27 更多
보통주식	59,244,686 予		1996.01.27 号7
우선주식	4,496,544 주	글 318,705,900,000 원	
발행주의의 총수	*0,041,150 T		1995,07,05 VL3
보통주식	66,044,636 😤	1	1998.07.05 등기
유선주식	4,495,544 ?	급-852,795,900,000 센	tions are at all of
발행주식의 총수	100,541,180 辛		1998.06.24 년 3
보통주식	96,044,636 주		1998.06.24 %2

100	(넷 발급) 문제 하단의 바코드를 스케너로 확인하거나, 언터넷등기소(http://www.iros.go.kr)의 확인 때뉴에서 발급확인번호를 업적하여 위·변조 어부를 확인할 수 있습니다. 확인번호를 통한 확인은 발략일부터 3개월까지 5회에 한하여 가능합니다.
10000	9500021323000010311101206131890ABFEBC1F819070917 1 발생일:2013/10/02 발급하인번호 3325-A40A-QBTE - 1/36 -

Appendix E. Law Books showing Hangul-Hanja mixed style

E 1 A book about civil laws

1) Sample pages showing Hangul-Hanja mixed style

128 第1編 總則

§ 2 [信義誠實의 原則]

사건에 대하여는 종전의 판례가 적용된다고 하였다. 252)253) 그러나 과연 법원 이 이처럼 순수장래효만을 인정할 권한이 있는지는 의문이다.

제2조【信義誠實】

- ① 權利의 行使와 義務의 履行은 信義에 좇아 誠實히 하여야 한다.
- ② 權利는 濫用하지 못한다.

[信義誠實의 原則]

Ⅰ. 信義誠實의 原則 一般論

1. 序說

アー 意義

信義誠實의 原則(信義則)이란 사회공동생활의 일원으로서 서로 相對方의 信賴를 헛되이 하지 않도록 성의있게 행동하여야 한다는 원칙을 말한다. 민법은 제2조 제1항에서「權利의 行使와 義務의 履行은 信義에 좇아 誠實히 하여야한다」고 규정하여 이를 선언하고 있다.

信義誠實의 原則은 권리남용금지의 원칙과 더불어 직접적으로는 權利行使의 自由의 制限 내지 限界를 설정해주고, 간접적으로는 權利의 社會性·公共性의 具體的 是認 내지 表現이기도 하다. 한편 信義則은 구체적 사건에 있어 구체

²⁵²⁾ 이 결정은 법원이 구체적인 개별 사건만을 재판하기 때문에 그러한 장래효 판결을 하는 것은 법원의 권한을 벗어나는 것이라는 주장에 대하여는, 행정법원의 재판이 법률적으로 나 법사회학적으로 일반적인 의미를 가지는 것을 충분히 고려하지 않는다고 한다. 그리고 장래효를 인정하는 것이 법원이 위법하게 행동하는 것이라는 비판에 대하여는, 법적 안정성 및 신뢰보호는 실체적 법적 정당성과 동등한 가치를 가진다고 반박한다. 이전에도 독일 연방대법원은 관례변경에 장래효만을 인정하는 판결을 선고하기도 하였으나(BGH NJW 1999, 58), 그 후의 판결(BGHZ 151, 34)은 이 판결을 따르지 않았다.

²⁵³⁾ 영국 귀족원의 National Westminster Bank v, Spectrum Plus Ltd. [2005] UKHL 41은 장 래효 관결도 가능하다고 하였다. 다만 당해 사건에서는 장래효를 인정하지 않았다.

적 타당성을 발견하기 위하여 旣存의 法을 具體化하며, 補充하며 더 나아가이를 補正하는 機能을 수행한다. 그리하여 信義則은 오늘날 사회의 변천에 적합하도록 제정법의 경직성을 보완함으로써 '살아있는 법'(lebendes Recht)으로서 지향할 수 있게 하는 중대한 기능과 사명이 부여되어 있다.

判例는 信義則의 適用要件을 다음과 같이 보고 있다. 즉, "민법상의 信義則은 法律關係의 當事者는 相對方의 利益을 배려하여 衡平에 어긋나거나 信賴를 저버리는 내용 또는 방법으로 권리를 행사하거나 의무를 이행하여서는 안 된다는 抽象的인 規範을 말하는 것인데 信義則에 違背된다는 이유로 그 권리행사를 부정하기 위하여는 相對方에게 信義를 공여하였다거나 客觀的으로 보아相對方이 信義를 가짐이 정당한 상태에 이르러야 하고 이와 같은 상대방의신의에 반하여 권리를 행사하는 것이 정의관념에 비추어 용인될 수 없는 정도의 상태에 이르러야 한다"고 판시한다.1)

나. 性格

「信義」、「誠實」의 개념은 사람의 행동이나 태도에 대한 윤리적·도덕적 평가를 나타내는 것이다. 信義則은 이를 법적 평가의 한 내용으로 도입한 것이므로 倫理規範性을 띤다. 또한 信義則은 權利·義務를 그의 사회적 사명하에 관찰하여야 한다는 오늘날 私法理念의 一般的·抽象的 內容을 선언한 것으로서 價值의 補充을 요하는 「一般條項」(Generalklausel)이다.

따라서 그 구체적인 내용은 개개의 裁判을 통하여 실현된다. 한편 信義則은 當事者가 이를 주장하지 않더라도 法院이 이를 職權으로 判斷할 수 있는가가 문제된다. 信義則은 强行法規的 性質을 가지므로 이를 긍정하여야 할 것이 다.²⁾ 判例도 "信義誠實의 原則에 반하는 것 또는 권리남용은 강행규정에 위배 되는 것이므로, 당사자의 주장이 없더라도 법원은 직권으로 판단할 수 있다" 고 판시한다.³⁾

¹⁾ 大判 1991, 12, 10, 91中3802; 大判 1993, 2, 9, 92中9364,

²⁾ 독일 通說과 判例도 같은 취지(vgl. MünchKomm-Roth, § 242 BGB Rdnr, 47; Erman-Sirp, § 242 BGB Rdnr, 205; BGHZ 3,103 f.; 37,152)이나, 有力說은 이를 當事者의 주장을 요하는 일종의 抗辯(Einrede)으로 보고 있다(vgl. Medicus, SchuldR AT, § 16 IV).

³⁾ 大判 1961, 12, 7, 4294민상174; 大判 1989, 9, 29, 88다카17181; 大判 1995, 12, 22, 94 다 42129

다. 沿革

信義則은「善 및 衡平」(bonum et aequum)을 기초로 하는 로마법의 善意訴訟(actio bonae fidei) 및 一般的 惡意의 抗辯(exceptio doli generalis)에 기원을 둔 것이다. 로마법은 訴權에 입각하고 있는데 그 소송은 엄격소송과 선의소송으로 구분된다. 嚴格訴訟은 엄격한 방식의 법률행위만이 그 기초가 되었으나 善意訴訟은 초기에는 법률이 규율하지 않았던 거래유형(매매, 임대차, 위임,조합 등)에 관한소송을 인정하기 위하여 중요한 기능을 하였으나 그 후 개별적 급부의무의 기준으로서 그 기능을 넓히게 되었다. 여기서 심판관은 그의판단의 폭이 넓어져 '피고가 원고에게 부담하는 급부는 신의성실에 좇아 이행하도록 판결하여야 하였다'(quidquid … dare facere oporte ex fide bona).4)즉,善意訴訟에서는 當事者의 意思表示이외에 契約當時의 狀況,去來價行,惡意・强迫의 有無 등 구체적 사정을 기초로 善意 및 衡平에 따라서 판결할 것이 요구되었다.

한편 로마법에서는 권리의 발생 취득 시에 원고가 악의를 가졌을 때에는 피고에게 '특별악의의 항변'(exceptio doli specialis)이 인정되었고 소의 제기에 있어 원고의 악의가 인정되면 피고에게 일반적 악의의 항변이 인정되었다. 이 일반적 악의의 항변은 신의 또는 형평에 의하여 엄격법을 제한하기 위하여 초기에는 활용되었으나 그 후에는 악의 유무에도 불구하고 소의 제기가신의와 형평에 어긋나면 그 항변이 인정되었다. 로마법의 이와 같은 제도를 기원으로 하여 오늘날의 신의 성실의 원칙은 발전한 것이다.

라. 立法例

프로이센일반란트법은 신의성실의 원칙에 관하여 언급이 없다. 근대법에서는 프랑스민법이 이를 계약에 관하여서 둔 것이 최초이다(§ 1134 C.c.: 합의는 信義에 좇아서 성실하게 履行하여야 한다). 독일민법 제1초안(제359조)에서도 이와 같은 프랑스민법의 내용을 그대로 이어받아 신의성실의 원칙을 계약에 의해 발생하는 채무의 내용을 결정하는 하나의 표준으로 채택하였다. 그러나 심의과정에서 신의성실의 요구는 비단 계약으로부터 발생하는 채무에 국한

3

⁴⁾ Max Kaser, Römisches Privatrecht, § 33 IV 3; Medicus, SchuldR I(AT), § 16 I.1; 황적인, 로마법·서양법제사, 148-149.

2) Bibliographic data about the book



주석 민법 총칙 1 [4판, 양장]

김용담 저 | 한국사법행정학회 | 2010년 08월 20일 첫번째 리뷰어가 되어주세요 | 판매지수 12 ?

정가 65,000원

판매가 65,000원

할인혜택 > 58,500원 ③ 신한카드
(10% 청구할인,5만원 +, 할인결제선택시, 한도1 만원)

62,000원 및 카카오뱅크
(3,000원 할인,캐시백, 3만원 +, 월1회)

62,000원 ② BC체크카드 (3,000원 할인,쿠폰, 3만원 +)

64,500원 PAYCO 페이코 (500원 할인,3천원 +, 최대3회)



E.2 A book about criminal laws

1) Sample pages showing Hangul-Hanja mixed style

60 제 2 편 訴訟主體의 訴訟行為 제1편 緖 論 제1장 刑事訴訟法 제 2 장 刑事訴訟의 理念과 構造 제 3 장 訴訟節次의 基本理論 제 ② 편 訴訟主體와 訴訟行為 제 | 장 訴訟의 主體 제 2 장 訴訟行爲와 訴訟條件 제 3 편 捜査와 公訴 제 | 장 捜 査 제 2 장 強制處分과 強制搜查 제 3 장 搜査의 終結 제 4 장 公訴의 提起 제 4 편 公 判 제1장 公判節次 제 2 장 證 제 3 장 裁 제 5 편 上訴・非常救濟節次・特別節次 제 1 장 上 訴 제 2 장 非常救濟節次 제 3 장 裁判의 執行과 刑事補償 제4장 特別節次

제1장 訴訟의 主體

訴訟은 절차이므로 일정한 主體를 전제로 하여 그 주체의 활동에 의하여 비로소 성립하고 발전하게 된다. 소송을 성립시키고 발전하게 하는 데 필요한 최소한의 주체를 訴訟의 主體(Prozeßsubjekt)라고 한다. 따라서 소송주체의 자격은 독자적인 소송법상의 권한을 가지고 그 행위에 의하여 소송을 성립하게 하는 점에 있다. 이러한 의미에서 소송의 주체는 소송의 人的 構成要素임과 동시에 訴訟法律關係를 형성하는 주체를 의미한다고 할 수 있다.

소송의 주체에는 法院·檢事·被告人이 있다. 이를 訴訟의 3主體라고 한다. 법원은 재판을 하는 주체임에 반하여, 검사와 피고인은 재판을 청구하거나 재판을 받는 주체이다. 법원과 검사는 모두 국가기관인 소송주체이다. 그러나 법원이 裁判權의 주체임에 반하여, 검사는 公訴權의 주체라는 점에서 양자는 구별된다. 재판을 받는 주체인 검사와 피고인을 當事者(Parteien)라고 한다. 물론 당사자란 당사자주의 소송구조를 전제로 하는 개념이다. 그러므로 직권주의 소송구조를 취한 때에는 검사와 피고인이 당사자가 되는 것은 아니다. 따라서 당사자주의가 적용될수 없는 搜查節次에 있어서 검사와 피의자를 당사자라고 할 수는 없다.

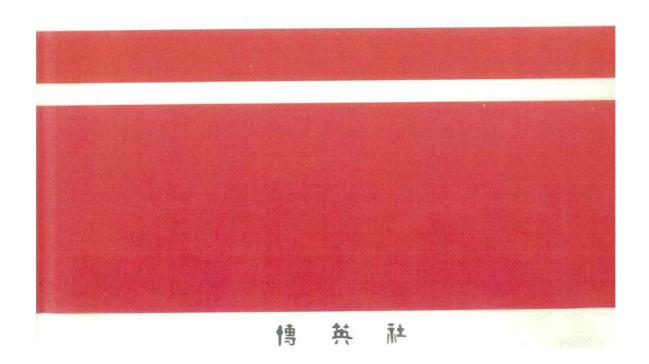
辯護人은 소송의 주체가 아니라 소송의 주체인 피고인(또는 피의자)의 補助者 (Beistand)에 지나지 않는다. 피고인의 보조자에는 변호인 이외에 補助人과 代理人이 있고, 검사의 보조자로 司法警察官吏가 있다. 소송당사자와 보조자를 합하여 訴訟關係人(Verfahrensbeteiligter)이라고 한다. 소송관계인은 訴訟關與者와 구별해야 한다. 중인·감정인·고소인 또는 고발인은 소송의 주체가 아닐 뿐 아니라 소송에 대한 적극적인 형성력이 없기 때문에 소송관계인도 될 수 없다. 이를 소송관여자라고 한다.

2) The front cover and copyright page of the book

第2版

新刑事訴訟法

李 在 祥 著



著者略歷

对多大學校 法科大學 卒業 第6回 司法試驗 台格 司法大學院 修了(法學碩士) 科울大學按 大學院(法學博士) 獨逸 Freiburg 大學 修學 陸軍 法務官 早社地方檢察廳 檢事 对金地方檢察廳 南部支廳 檢事 法務部 檢察局 君 母舍地方檢察廳 每事 旅游 上 对多大學校 法科大學 講師 梨花女子大學校 法政大學 教授 慶熙大學校 法科大學 敘授 梨花女子大學校 法科大學 發授 司法試验委員 法務部 法務諮問委員, 保安處分審議委員 刑事法改正特別審議委員會 委員 韓國刑事政策學會 會長 韓國刑事法學會 商長 刑事判例研究會 會長 韓國刑事政策研究院 院長 法曹倫門協議會 委員長 現在 型花女子大學校 法科大學 碩座教授 刑事法改正特别審議委員會 委員長

著書

保安處分의 研究(1978) 社會保護法論(1981) 刑法智講[總論 I](1984) 刑法智講[各論 II](1988) 刑法智講[各論 I](全訂版, 1989) 刑法認論(第 6 版, 2008) 刑法各論(第 6 版, 2009) 新刑事訴訟法演習(第 3 版, 2008) 刑法學問題解說(第11版, 2008, 海潮社) 刑法演習(第 6 版, 2008, 海潮社)

第2版

新刑事訴訟法

 2007年
 8月
 30日
 初版發行

 2008年
 1月
 30日
 第2版發行

 2009年
 8月
 10日
 重版發行

著 者 李 在 祥 發行人 安 鍾 萬 發行處 (程) **總 英 社**

> 母金特別市 鍾譜區 平詞 13 31 番地 電話 (733)6771 FAX (736)4818 登建 1959, 3, 11. 34300 1959 1호(倫)

www.pakyoungsa.co.kr e-mail: pys@pakyoungsa.co.kr

破末色 再引 左肩口口, 右沿到 無關後製行為是 禁役口口,

定 價 45,000 원

ISBN 978-89-7189-122-3



Appendix F. Variant Groups (Sets) in K-LGR v1.0 (2017.12.10.)

There are three tables in this document:

- F.1 152 Variant Groups (Sets) between Hanja chars in K-LGR v1.0
- F.2 2 Variant Groups (Sets) between Hangul syllables and Hanja chars in K-LGR v1.0
- F.3 3 Variant Groups (Sets) between between Hangul syllables and Hanja chars out of K-LGR v1.0 -- out-of-repetoire-variant

F.1 152 Variant Groups (Sets) between Hanja chars in K-LGR v1.0

SN	cp1	glyph1	cp2	glyph2	ср3	glyph3
1	3960	惛	8ADD	諝		
2	4E00		58F9	壹		
3	4E07	万	842C	萬		
4	4E8C	<u> </u>	8CB3	貢		
5	4E8E	于	65BC	於		
6	4E91	굸	96F2	雲		
7	4E94	五	4F0D	伍		
8	4EDF	仟	5343	千		
9	4EF7	价	50F9	價		
10	4F48	佈	5E03	布		
11	4F96	侖	5D19	崙		
12	4FC2	係	7CFB	系		
13	5002	倂	5E77	并		
14	500B	個	7B87	筃		
15	5016	倖	5E78	幸		
16	5091	傑	6770	杰		
17	50CF	像	8C61	象		
18	5147	兇	51F6	X		

19	516B	八	634C	捌		
20	518A	₩	518C	册		
21	51C6	准	6E96	準		
22	51C9	凉	6DBC	涼		
23	528D	劍	5292	劒		
24	532F	進	5F59	彙		
25	5347	升	6607	昇	965E	陞
26	5398	厘	91D0	釐		
27	53A6	厦	5EC8	廈		
28	53E1	叡	777F	睿		
29	53F0	台	81FA	臺		
30	5403	吃	55AB	喫		
31	540A	吊	5F14	弔		
32	540E	后	5F8C	後		
33	5468	周	9031	週		
34	548F	咏	8A60	詠		
35	54A8	咨	8AEE	諮		
36	5563	啣	929C	銜		
37	56DB	匹	8086	肆		
38	583A	堺	754C	界		
39	58BB	墻	7246	牆		

				1	I	
40	596C	奬	734E	獎		
41	5978	奸	59E6	姦		
42	598A	妊	59D9	妊		
43	5BF6	寶	73E4	珤		
44	5C38	尸	5C4D	屍		
45	5CA1	畄	5D17	崗		
46	5CA9	岩	5DD6	巖		
47	5CB3	岳	5DBD	嶽		
48	5CEF	峯	5CF0	峰		
49	5CF6	島	5D8B	嶋		
50	5D11	崑	6606	昆		
51	5E2D	席	84C6	蓆		
52	5E84	庄	838A	莊		
53	5E8A	床	7240	牀		
54	5F26	弦	7D43	絃		
55	5F3A	强	5F4A	彊		
56	5F54	彔	9304	錄		
57	5F69	彩	7DB5	綵		
58	5FA9	復	8907	複		
59	5FD7	志	8A8C	誌		
60	6258	托	8A17	託		

61	6298	折	647A	摺		
62	636E	据	64DA	據		
63	637F	捿	68F2	棲		
64	63A1	採	91C7	采		
65	63DA	揚	656D	敭		
66	6537	攷	8003	考		
67	65E0	无	7121	無		
68	661E	昞	70B3	炳		
69	6649	晉	664B	亚目		
70	6667	皓	7693	皓		
71	6696	暖	7156	煖		
72	66DC	曜	71FF	燿	8000	耀
73	672D	札	7B9A	箚		
74	673A	机	6A5F	機		
75	6746	杆	687F	桿		
76	676F	杯	76C3	盃		
77	679C	果	83D3	菓		
78	67BE	木市	67FF	柿		
79	67C4	柄	68C5	棅		
80	67CF	柏	6822	栢		
81	6881	梁	6A11	樑		

82	68CB	棋	7881	碁		
83	6900	椀	7897	碗		
84	6A97	檗	8617	蘗		
85	6BD7	毗	6BD8	毘		
86	6BEC	毬	7403	球		
87	6C3E	氾	6CDB	泛		
88	6C88	沈	700B	瀋		
89	6C96	沖	885D	衝		
90	6CC4	泄	6D29	洩	6E2B	渫
91	6CE8	注	8A3B	註		
92	6D5A	浚	6FEC	濬		
93	6D69	浩	6F94	澔		
94	6D8C	涌	6E67	湧		
95	6DC0	淀	6FB1	澱		
96	6E17	渗	6EF2	滲		
97	6E38	游	904A	遊		
98	6EAA	溪	8C3F	谿		
99	6EAF	溯	9061	遡		
100	70AF	炯	70F1	烱		
101	70B9	点	9EDE	點		
102	70DF	烟	7159	煙		

103	718F	熏	71FB	燻		
104	7194	熔	9394	鎔		
105	71B9	熹	71BA	熺		
106	7200	爀	8D6B	赤赤		
107	7401	琁	7487	璇	74BF	璿
108	7405	琅	746F	瑯		
109	7409	琉	7460	瑠		
110	74EE	瓮	7515	獲		
111	7526	甦	8607	蘇		
112	756B	畫	7575	畵		
113	757A	畺	7586	疆		
114	758E	疎	758F	疏		
115	75F4	痴	7661	癡		
116	767C	發	9AEE	髮		
117	76D6	盖	84CB	蓋		
118	7779	睹	89A9	覩		
119	79BB	選	96E2	驚		
120	79D5	秕	7C83	粃		
121	7A1A	稚	7A49	穉		
122	7B51	筑	7BC9	築		
123	7BC4	範	8303	范		

			I			
124	7C3D	簽	7C64	籤		
125	7CAE	粮	7CE7	糧		
126	7D2C	紬	7DA2	綢		
127	8008	耈	8009	耆		
128	8105	脅	8107	脇		
129	81B3	膳	994D	饍		
130	8278	丱丱	8349	草		
131	82A6	芦	8606	蘆		
132	8373	荳	8C46	豆豆		
133	846F	葯	85E5	藥		
134	85AF	薯	85F7	諸		
135	88CF	裏	88E1	裡		
136	88F4	裴	88F5	裵		
137	8AE1	盏	8B1A	益		
138	8B9A	識	8D0A	贊		
139	8C4A	豊	8C50	豐		
140	8DE1	跡	8E5F	蹟	8FF9	迹
141	8E30	瑜	903E	逾		
142	8F3F	輿	8F5D	轝		
143	9002	适	9069	適		
144	9041	遁	906F	遯		

145	937E	鍾	9418	鐘	
146	9451	鑑	9452	鑒	
147	965C	陜	965D	陝	
148	9762	面	9EB5	麵	
149	98E2	飢	9951	饑	
150	9C32	鰲	9F07	整	
151	9C49) 魚	9F08	^{術女} 黽	
152	9ED8	默	9ED9	黙	

F.2 2 Variant Groups (Sets) between Hangul syllables and Hanja chars in K-LGR v1.0

SN	ср1	glyph1	cp2	glyph2	
1	C2A5	슥	4ECA	今	
2	C2B4	슴	5408	合	

F.3 3 Variant Groups (Sets) between Hangul syllables and Hanja chars out of K-LGR v1.0 -- out-of-repetoire-variant

	cp1	glyph1	cp2	glyph2	
SN			(out-of-		
			rep-var)		
1	C4F0	쓰	4E1B	丛	
2	B9C8	마	535F	口卜	
3	B258	뉘	723F	爿	

Appendix G. More Information about Hangul¹

Section G.1 explains Origin and History of Korean Language and section G.2 describes the Basic Rules on the Use of the Script.

G.1 Origin and History of Korean Language

(1) Origin of the Korean Language

The origin of the Korean language remains unclear. In the early 20th century, when comparative linguistics prevailed, certain linguists presented a theory that Korean belonged to the putative Ural-Altaic language family. This theory was later discredited as others argued that even if Korean originated from the Altaic family, the two were barely inter-related, posing a mystery about the origins of the language.

Korean textbooks used in Korean high schools write that "it is likely that Korean belongs to the same proto-language from which Manchu, Mongolian and Turkish are derived. In other words, it is possibly a member of the Altaic language family." [221]. Old Korean had two geographically distinct dialects, the North and South Korean dialects. This can be verified in ancient Chinese texts such as *Sanguozhi* (三國志) (The Records of Three Kingdoms) and *Hou Han Shu* (後漢書) (The History of the Later Han).

(2) Old Korean

From a linguistic perspective, Korean can be classified into three groups: Old Korean, Middle Korean, and Modern Korean.

Old Korean refers to the Korean language that was used from the Three Kingdoms Period (B.C. 57~) to the Unified Shilla Period, and whose usage during this time can be verified in various ancient records. The unification of the three kingdoms by the Shilla Dynasty led to the consolidation of the dialects of the three kingdoms into the dialect of the conqueror Shilla (AD 676, 7th century). At that time, there was no writing system in Korea, and *Hanja* or adapted Chinese characters were used instead to stand for Korean words.

Chinese characters were used to denote the meaning or to represent the sound of Korean words in such writing systems as *idu*, *hyangchal*, or *gugyeol*, all of which remained in use until the end of the Early Modern Korean era. A Korean high-school textbook writes, "During this period, people spoke Korean, but there was no writing system. People had to use Chinese characters for the purpose of writing, which is significantly different in terms of structure and syntax [221].

(3) Middle Korean

Middle Korean was the language used from the early 10th century, when the Goryeo Dynasty was founded, until the end of the 16th century when Japan invaded Korea. Unlike Old Korean, Middle Korean was largely consolidated and standardized. Middle Korean is divided again into two periods: The first half of the Middle Korean era corresponds to the period of the Goryeo Dynasty, while the second coincides with the early period of the Joseon Dynasty.

¹ This information was provided by National Institute of Korean Language, Republic of Korea

During the first half of the Middle Korean period, the influence of Goguryeo's language continued to linger, but in general, the Shilla language was predominant, and both languages were still written in Chinese characters. The creation of *Hunminjeongeum* (The Proper Sounds for the Instruction of the People) or *Hangeul* marked the beginning of a new era in the latter half of the period, as Korea now had its own writing system.

(4) Early Modern Korean

Modern Korean was used from the early 17th century to the late 19th century when the Joseon Dynasty began to open up to the outside world and ushered in the period of enlightenment.

Jae-il Kwon, professor of Seoul National University and former Director General of the National Institute of the Korean Language, explains, "From the 17th century on, the Korean language began to go through distinctive changes in its own phonology, vocabulary and grammar, compared to the previous periods, and its vowels underwent structural changes as well.

Many grammatical phenomena disappeared altogether, and new ones were introduced into the language [232]. During this period, unlike the previous period of Middle Korean, Hangeul was expanding its ground as the prevailing writing system in all aspects of people's daily life.

A school textbook explains, "King Gojong declared the Gabo Reforms in 1894 and ordered that 'the Korean versions of laws and regulations shall prevail as the primary and official forms of all documents, and their translation into Chinese characters shall be provided, or Korean and Chinese characters shall be mixed in such documents'" [221]. This period is also characterized by rapid inflows of Western culture into the country via China and Japan. As a result, there was a large influx of new vocabulary to express new cultural phenomena, items, and concepts.

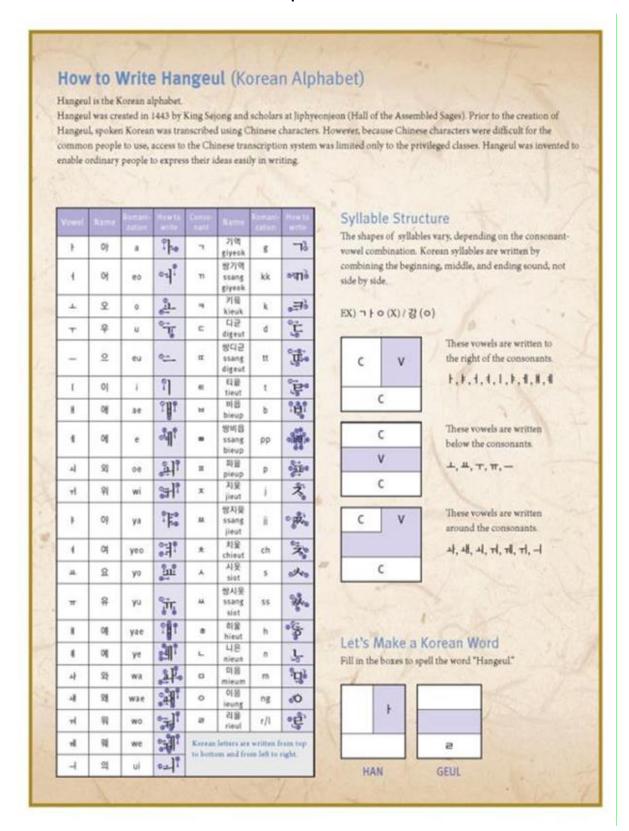
(5) Modern Korean

Modern Korean refers to the Korean language that has been used since the period of enlightenment to the present day. In the early stage of Modern Korean, Hangeul and *Hanja*, the Korean name for the Chinese characters used in the Korean language, were mixed in writing [221], but Hangeul gradually took over Hanja.

A school textbook writes, "Hangeul took over Hanja as the dominant script in Korean writing after Korea gained its independence from Japanese rule in 1945, but Hanja remained in use, mixed with Hangeul, in newspapers and technical publications until the 1980s. Even today, Hanja is sometimes provided in parentheses, next to Korean words such as homonyms, contracted words, academic or technical terms, people's names, etc., when it is deemed that further clarification is required because Korean words alone may not be sufficient to deliver the intended meaning or may be misunderstood and confused with other words that have the same sounds."

However, Korean is written mostly and only in Hangeul, and *Hanja* are simultaneously added for additional information only in exceptional cases where it is deemed necessary by the author to clarify the meaning or to avoid potential confusion or vagueness in understanding the meaning of the words.

G.2 The Basic Rules on the Use of the Script



Source: Nuri Sejong Hakdang, retrieved from http://www.sejonghakdang.org/, Learning Materials (Grammar) [234]

Appendix H. More Information about Hanja and Hangul-Hanja in ROK

Appendix H explains why both Hangul and Hanja must be included in K-LGR.

Appendix H is organized as follows. Section H.1 presents Hanja-based Korean words and Hangul-Hanja mixed writing. Framework Act on Korean Language is explained in Section H.2. Section H.3 demonstrates good candidates for Hanja domain names such as place names, personal names, and family clans.

Figures showing only Hanja and Hangul-Hanja mixed style in ROK are described in Section H.4. Korean standard KS X 5003, Keyboard for personal computers, includes a key labeled "Hanja" used for converting Hangul to Hanja. This standard is shown in Section H.5. Hanja Grade Certificates and Education of Hanja at schools are introduced in Section H.6.

Searching Hanja on Korean portals and on-line dictionaries is described in Section H.7. In Jan. 2017, the Name and Numbers Committee of Korea Internet Governance Alliance (KIGA) formally created a WG to proceed the adoption of Hanja within the framework of Korean ccTLD (.kr and .한국). This is mentioned in Section H.8.

H.1 Hanja-based Korean words and Hangul-Hanja mixed writing

Cheol Huh (2010) [222] found that Hanja-based Korean words accounted for approximately 66% of entry words in a Korean dictionary, purely Korean words around 26%, loan words originating from other languages around 4%, and others 4%.

Considering the history of Korean language, Han script, and Hangul, it is natural that many Korean words are directly coming or derived from Chinese ones. Korean dictionaries show entry words in Hangul. When it can be written in Han script, a Korean entry word is listed in Han script as well as Korean script.

Around at the end of the 19th century, Hangul-Hanja mixed writing system appeared and, in the 20th century, Hangul-Hanja mixed writing system became quite popular.

Sample pages of law books showing Hangul-Hanja mixed writing are given in Appendix E.

H.2 Framework Act on Korean Language

Some might argue that Hanja is not used in Republic of Korea since Framework Act on Korean Language was announced in 2005. Article 14, item 1 of the Act (see English version at http://elaw.klri.re.kr/eng mobile/viewer.do?hseq=28092&type=part&key=17) is shown below:

Article 14 (Preparation of official documents)

Public institutions, etc. shall prepare official documents in the Korean language in accordance with language norms: Provided, That Chinese characters or other foreign letters may be entered in parentheses, in cases prescribed by Presidential Decree.

However, there was a very similar act before the Framework Act on Korean Language was announced in 2005. In Oct. 1948, "Act on using Hangul only" was announced. It says:

Official documents of Republic of Korea are written in Hangul. However, for the time being, if necessary, Hanja can be used in parallel.

Therefore, as far as using only Hangul in official documents is concerned, there has been such an act since 1948, not since 2005. Therefore, it has not been a significant change since 1948.

It should be noted that these two acts are concerned with the use of Hangul in "official documents" of public institutions (governments and government-related institutions) only. However, newspapers, magazines, textbooks, non-governmental organizations' documents, etc., have not been regulated by the authority.

For example, between 1948 and 1970s when there was an act enforcing using only Hangul in the official documents, Hanja was used significantly in every newspaper.

Therefore, Framework Act on Korean Language cannot be the last word, and hence decisive, reference when we discuss the possibility of Hanja integration.

H.3 Hanja Domain Names: Place Names, Personal Names, and Family Clans

Most regional names (provinces, cities, counties, etc.), personal names, family clans, etc. in Hangul have their own corresponding names in Hanja. These proper names are good candidates for Hanja domain names in Korea.

When a baby is born in Republic of Korea, usually parents file Birth Report Form (see Figure AppH1 below) to the district office. Based on the Birth Report Form, Family Relationship registry is created by the government agency and the child with the birth report form officially becomes a Korean national.

Birth Report Form of a new-born baby has fields such as B1) baby's name in Hangul (required), B2) baby's name in Hanja (optional), B3) baby's family clan (본) in Hanja; B4) parents' names in Hangul, B5) parents' names in Hanja in parentheses, B6) parents' family clans (본) in Hanja. Fields B2), B3), B5), and B6) are written in Hanja.

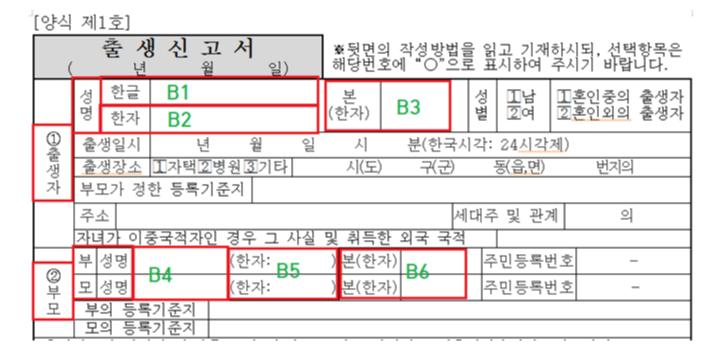


Figure AppH1 Birth Report Form

Basic Certificate (기본 증명서, see Figure AppH2 below) of Family Relationship registry (가족 관계 등록부) shows a person's name in Hangul (required) and in Hanja in parentheses (if any), and family clan in Hanja. Family Relationship registry is maintained by the government.

기본중명서

등록 기준기	준지 서울특별시 영등포구 역의도동 1번지의 1234							
구분	상세 내용							
- A-2	[가족관계등록부 작성일] 2008년 01월 01일 [작성사유] 가족관계의 등록 등에 관한 법률 부칙 제3조제1항							
변경	[변경일] 2008년 01월 03일 [전 등록기준지] 서울특별시 관악구 봉천동 100번지의 3 [처리관서] 서울특별시 영등포구							
구분		성명		출생연월일	주민등록번호	성별	年	
본인	김본인(金本人)		人)	1965년 01월 01일	650101-1234567	남	金海	

Figure AppH2 Basic Certificate (기본 증명서) of Family Relationship registry (가족 관계 등록부)

As shown above, Hanja is officially used for personal names and family clans in Birth Report Form and Family Relationship registry maintained by the government. Personal names and family clans are good candidates for domains. Individuals have been requested to provide their own Hanja names together with Korean script in many occasions including in their resume forms, etc.

H.4 Hanja and Hangul-Hanja mixed usages in ROK

As shown in Appendices A to D, it is easy to find many examples representing their identity in Hanja and Hangul-Hanja mixed style in ROK, which justifies that K-LGR must include both Hangul and Hanja in its repertoire.

H.4.1 Figures showing usage of Hanja in ROK

Several figures showing usage of Hanja in ROK are given in Appendix A:

- A university name, Pusan National University, is written in Hanja (see Figure AppA1-1 in Appendix A) and a library name, The First Library, is written in Hanja (see Figure AppA1-2).
- On-line Hangul dictionary (dic.naver.com) shows Hanja for Hanja-based entry words (see Figure AppA1-3).
- Jeju Special Self-governing Provincial Government (see Figure AppA1-4).
- Maeil Sinmun(newspaper) shows its title in Hanja (http://www.imaeil.com) (see Figure AppA1-5).
- Chosun Ilbo (newspaper) shows its title in Hanja (paper copy) (see Figure AppA1-6).
- The front of Hyundai Group Building (see Figure AppA1-7). Hyundai Cars exports lots of Hyundai cars to foreign countries.

A sample of Corporate Register of "Samsung Mulsan" containing Hanja in corporate name is shown in Appendix D.

H.4.2 Figures showing Hangul-Hanja mixed Registered Trademarks in ROK

Twenty nine Hangul-Hanja mixed registered trademarks are shown in Appendix B, which justifies that K-LGR must include both Hangul and Hanja in its repertoire.

Although the database of the registered trademarks in Korea is open to the public, it is in practice difficult for KGP to search the whole database to find out how many Hangul-Hanja mixed trademarks are there. KGP tried to search the database and found some Hangul-Hanja mixed trademarks as shown in Appendix B. It is obvious that there are lots of Hangul-Hanja mixed trademarks in the database despite our limited search.

In the left column in Appendix B, a registered trade mark with text is shown; in the right column, a corresponding image of the registered trademark is shown.

H.4.3 Hangul-Hanja Mixed Signboards

As shown in Appendix C, there are quite a few Hangul-Hanja mixed store signboards which should be registered at their local district or county office.

Many trademarks, company names, store names (store signboards), etc. are officially registered in Hangul-Hanja mixed format. Those are good candidates for domain names, which justifies that K-LGR must include both Hangul and Hanja in its repertoire.

H.5 Computer Keyboard: A key labeled "한자" (Hanja) converting Hangul to Hanja in KS X 5003

A Korean standard KS X 5003, Keyboard for personal computer (개인용 컴퓨터 키보드), was first published on 1996-10-08 and last confirmed on 2016-12-26. According to that standard, there is a key labeled "한자" (Hanja) which is used to convert Hangul to Hanja.

Accordingly, almost all Hangul computer keyboards in the Republic of Korea have Hanja (한자) key.

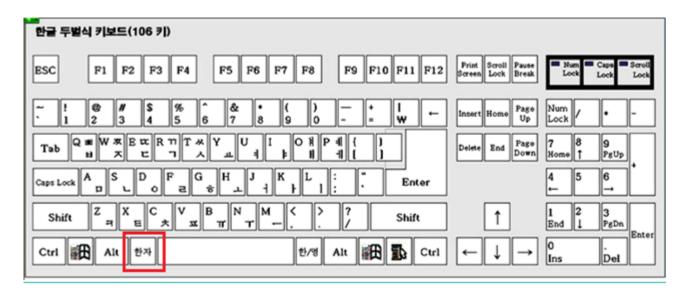


Figure AppH3 A key labeled "한자" (Hanja) in KS X 5003 is used for converting Hangul to Hanja

"한자" (Hanja) key is supported at the level of operating system (e.g., MS Windows). Of course, applications may have their own supporting method to input (enter) Hanja characters.

This fact confirms that a) Hanja is still used quite a lot in Republic of Korea, b) Hanja is still important in Republic of Korea, and c) officially standardized computer keyboards support Hanja input (at the hardware level). This justifies that K-LGR must include both Hangul and Hanja in its repertoire.

How to enter Hanja using "한자" key on MS Windows?

- 1) First, you enter a character in Hangul (in the example below, "한". see Figure AppH4 (a) below) and then press Hanja (한자) key.
 - 2) Then several Hanja characters whose pronunciation is "한" are shown on the screen.
- 3) You can select one of them by entering a digit or by moving a mouse and pressing left button (in the example below, "2").
 - 4) Then Hangul (in the example below "한") is changed to Hanja (in the example below, "漢").
 - 5) In a similar way, you type "자" and convert it to "字".



(a) Select "한" and change it to "漢" by choosing 2.



(b) Select "자" and change it to "字" by choosing 5



(c) "한자" has been changed to "漢字"

Figure AppH4 Converting "한자" to "漢字" using "한자" key on keyboard

H.6 Hanja Test and Hanja Education:

Section H.6.1 lists the number of Hanja Grade Certificates that have been issued so far. Section H.6.2 highlights the government plan that Hanja will be used in parallel with Hangul in textbooks at primary schools starting in 2019.

Section H.6.3, describes how Hanja courses are taught at high schools and primary schools in Republic of Korea.

H.6.1 400,000 Hanja Grade Certificates issued every year

In Republic of Korea, about 400,000 Hanja Grade Certificates have been issued every year between 2013 and 2015 by eight private Hanja-test-related institutes. One person may get more than one grade certificate. Details are shown in the Table AppH1 below.

Table AppH1. The number of Hanja Grade Certificates issued by 8 institutes between 2013 and 2015

Name of institutes	in 2015	in 2014	in 2013	
issuing Hanja Grade Certificates	111 2013	111 2014	111 2013	
1. (사)한국어문회	98,376	92,940	111,728	
http://www.hanja.re.kr/				
2. (사)한국평생교육평가원	59,599		_	
http://www.ikpe.or.kr/hanja/index.asp?p_mode=hanja	39,399			
3. (사)한국한자한문능력개발원	824	654	2,494	
https://www.hanja4u.org/	024			
4. 사단법인한국교육문화회	42,973	47,762	48,267	
http://www.hanjapass.com/	42,373		40,207	
5. 한국정보관리협회	212	1,229	2,463	
http://www.kaim.co.kr/jagyock/sub3_6.htm				
6. (사)대한민국한자교육연구회	98,933	123,448	35,100	
http://www.hanja.net/	90,933	125,446	33,100	
7. 대한상공회의소	977	2,976	3,909	
http://license.korcham.net/	911	2,970		
8. (사)한자교육진흥회	113,396	142,909	163,408	
https://web.hanja114.org/common/main/main.do	110,090	144,909	100,400	
Total	415,290	411,918	367,369	

Considering that the number of new-born babies in Republic of Korea is about 400,000 in 2016, around 400,000 certificates every year is really many.

Many Korean people study Hanja to get Hanja Grade Certificates. By studying this way, most Korean people come to learn Hanja.

H.6.2 Starting in 2019, Hanja will be used in parallel with Hangul in textbooks at primary schools

In December 2016, Ministry of Education of Republic of Korea announced as follows: starting in 2019, Hanja can be used in parallel with Hangul for Hanja-based words in textbooks for 5th and 6th grade students at the primary schools. The number of Hanja characters that can be used in parallel with Hangul is about 300. (See a newspaper article:

http://www.hani.co.kr/arti/society/schooling/776746.html)

It needs to be noted that students in the primary schools learn traditional Hanja characters and words, not modern Chinese language or simplified Hanja characters. Hanja will be used not only in Korean Language text books but also in the textbooks of other courses such as mathematics, science, and social science studies.

Some may consider 300 characters are not many. However, we need to take this into consideration that primary school students have not taken any Hanja related courses until the 5th grade.

H.6.3 Hanja Courses at Schools

It needs to be noted that most high school students learn Hanja characters and words, not modern Chinese language, by taking Chinese courses as below. In other words, much emphasis is put on learning Hanja characters and Hanja words in these courses.

According to the current curricula (announced in December 2015 as Notification (고시) No. 2015-80 of Ministry of Education of Rep. of Korea), Chinese is an optional course for junior high school students; Chinese I (one) is an optional course and Chinese II (two) is also an optional course for senior high school students.

Chinese course teaches famous literatures written by Korean and Chinese scholars in old (traditional) Chinese. In that course, students learn traditional Hanja characters and words, not modern Chinese language.

In reality, most students take Chinese courses during their junior and/or senior high school period. Some university students take Written Chinese course as an optional course.

At senior high schools, Modern Chinese language with simplified Chinese is also offered as an option for foreign language course.

Table AppH2 shows how many high schools ordered Hanja textbooks. About 84% $^{\sim}$ 93% of junior and senior high schools ordered Hanja textbooks.

Table AppH2. The ratios of # of schools which ordered textbooks to # of junior and senior high schools

year	the total # of junior high schools *	# of junior high schools which ordered Hanja textbooks **	ratio (%)	the total # of senior high schools **	# of senior high schools which ordered Hanja textbooks **	ratio (%)
2015	3245	2827	87%	2106	1950	93%
2016	3257	2787	86%	2017	1756	87%
2017	3258	2739	84%	2013	1710	85%

^{* &}lt;a href="http://www.schoolinfo.go.kr/">http://www.schoolinfo.go.kr/ (Korea Education and Research Information Service)

Tables AppH3 shows how many textbooks for Chinese courses are ordered by high schools. About 90% of junior high school students take Hanja course and about 80% of senior high school students take Hanja course.

Table AppH3. The ratios of # of textbooks ordered to # of students at junior and senior high schools

year	# students per grade at junior high schools *	# textbooks ordered for junior high schools **	ratio (%)	# students per grade at senior high school *	# textbooks ordered for senior high schools **	ratio (%)
2015	525000	493000	94%	533000	437000	82%
2016	483000	444000	92%	523000	417000	80%
2017	458000	416000	91%	499000	387000	78%

^{* &}lt;a href="http://www.schoolinfo.go.kr/">http://www.schoolinfo.go.kr/ (Korea Education and Research Information Service)

H.7 Hanja-Based Word Search on Korean Portals

Korean people can search Hanja keywords on major portal sites (Figure AppH5) and on-line dictionaries (Figure AppH6). Furthermore, when you search Hanja keywords, Hanja characters are shown in the address window of web browsers as shown below in Figures AppH5 and AppH6:

^{** &}lt;a href="http://www.ktbook.com/">http://www.ktbook.com/ (Korea Authorized & Approved Textbook Association)

^{**} http://www.ktbook.com/ (Korea Authorized & Approved Textbook Association)

http://search.seoul.co.kr/index.php?keyword=%E6%96%87

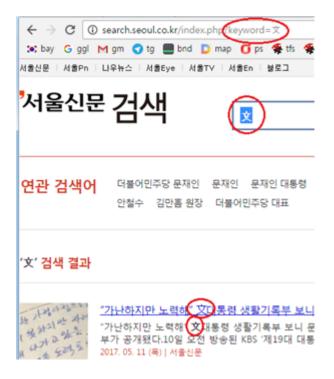


Figure AppH5 Searching newspaper articles containing Hanja

http://dic.naver.com/search.nhn?dicQuery=%E5%A4%A7%E7%B5%B1%E9%A0%98&query=%E5%A4%A7%E7%B5%B1%E9%A0%98&target=dic&ie=utf8&query_utf=&isOnlyViewEE=&x=13&y=14

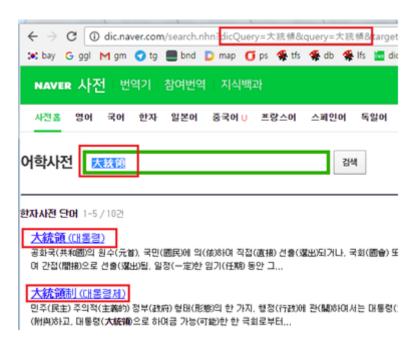


Figure AppH6 Searching entry words containing Hanja on on-line dictionary

H.8 Hanja Domain Policy Dialogue

In Jan. 2017, the Name and Number Committee of Korea Internet Governance Alliance (KIGA, http://en.kiga.or.kr) formally created a WG to consider the adoption of Hanja within the framework of Korean ccTLD (.kr and .한국).